

# Motivating patients during an Exercise Referral Scheme: Views and experiences of sport professionals

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## Abstract

*Background* The prevalence of people living with non-communicable diseases is increasing and physical inactivity is a major contributor to this problem. To increase levels of physical activity, Exercise Referral Schemes (ERS) have been developed. The main barrier for inactive patients to participate in an ERS is a low level of motivation. Health and sport professionals working with ERS might contribute to patients' motivation but research on how this process exactly works is incomplete. Therefore, the current study focuses on how sport professionals influence patients' motivation in an ERS. *Methods* Seventeen Dutch sport professionals involved in an ERS participated in semi-structured interviews. Data was thematically analysed using NVivo. *Results* Professionals mentioned the most important determinants influencing patients' motivation to be the three basic psychological needs (i.e., autonomy, competence, relatedness) from the Self-Determination Theory. Professionals felt like they had an influence on the motivation of patients at which especially their presence during exercising and their professionalism were important. Three categories of main influences could be described, among which 1) professionals' ability to provide individual and customised guidance, 2) their medical and programme knowledge, and 3) the feelings of safety they provide to the patient. Care Sport Connectors and Exercise Providers used different strategies and most professionals expressed to use strategies they were familiar with. Substantiated motivational strategies were used only by some professionals, others described their willingness to get familiar with such strategies. *Conclusions* Sport professionals experienced to have an influence on patients' motivation. Their presence and their ability to create a positive atmosphere were the most important factors for patients to continue exercising in an ERS. Use of motivational strategies was very personal and differed per individual. The results of this study contribute to the scientific knowledge on ERS and can be used to develop new or improve existing PA programmes.

## Introduction

The prevalence of people suffering from non-communicable diseases is increasing (World Health Organisation, 2020). Physical inactivity is a major contributor to this problem. The World Health Organisation (WHO) even ranks physical inactivity as the fourth leading risk factor to global mortality (WHO, 2010). Inactivity has been found to be associated with several public health risks, such as overweight and obesity, Type 2 diabetes, cardiovascular disease, and other adverse health outcomes (Owen, Salmon, Koohsari, Turrell, & Giles-Corti, 2014). Physical activity (PA) can be defined as ‘any bodily movement produced by skeletal muscles that results in energy expenditure’ (Lundqvist, Börjesson, Larsson, Hagber, & Cider, 2017). Because PA has shown many positive effects related to the prevention of non-communicable diseases worldwide, the WHO recommended that people should execute at least 150 minutes of moderate-intense PA throughout the week (WHO, 2010). The Dutch guideline is in adherence to this (Gezondheidsraad, 2017). Nonetheless, in the Netherlands still 50.9 percent of people eighteen years and older does not meet this guideline (Leefstijlmonitor, 2020). A lack of time, high costs, and low levels of motivation are mentioned to be main barriers regarding executing PA in the Netherlands (Collard & Veninga, 2016; Van den Dool, 2019). Moreover, as PA is associated with several non-communicable diseases, it can be especially beneficial for people suffering from chronic illness. The benefits of PA for this population group can be tremendous, probably even leading to reduction in medication use and better quality of life (Anderson & Durstine, 2019). In the Netherlands, 58 percent of the population of 16 years and older lives with at least one chronic condition (Nivel Zorgregistraties, 2019). Within this group, 55 percent does not meet the PA recommendations (Hoogendoorn & De Hollander, 2017). Several reasons can be named for why chronically ill people avoid PA, among which a fear of aggravation of

complaints, lack of knowledge of the positive effects of PA for their condition, and lack of knowledge of available and suitable exercise activities (Hoogendoorn & De Hollander, 2017).

It is clear that PA is important and that current PA levels in the Netherlands are low (Leefstijlmonitor, 2020). To increase levels of PA, Exercise Referral Schemes (ERS) have been developed to encourage patients to take up PA. However, patients' uptake and adherence to an ERS is not always successful. One of the most frequently mentioned barriers to uptake of an ERS by patients is a lack of motivation (Eynon, Foad, Downey, Bowmer & Mills, 2019). Research has shown that health professionals have a positive influence on patients' motivation to participate in an ERS (Eynon et al., 2019). The influence of sport professionals however has not been extensively studied and current knowledge is incomplete. Therefore, this study aims to determine the influence of sport professionals on the motivation of patients participating in an ERS. This study contributes to the literature base on ERS and the results can be used to improve existing ERS and to develop new PA programmes.

### **Exercise referral schemes (ERS)**

To decrease levels of inactivity in inactive or chronically ill people, Exercise Referral Schemes (ERS) have been developed. ERS are a primary care-based model of promoting PA in which the primary healthcare professional (general practitioner (GP) or nurse practitioner) refers the patient to a third-party exercise service for a 12-week structured exercise program at a reduced fee (Pavey et al., 2012). The third-party is often a sports centre, local exercise initiative or physiotherapist. Together with the primary healthcare professional, the exercise programme is tailored to the individuals' needs (Pavey et al., 2011). ERS have been developed within primary care for two main reasons (Dugdill, Graham & McNair, 2005). The first reason is related to opportunity: health professionals frequently encounter the general public. In the Netherlands, 77.8 percent of the Dutch population yearly visits the GP (CBS, 2019), which makes the GP an accessible actor who reaches many patients. Secondly, health

professionals are considered to be a very credible source of health advice and thus are likely to be influential in changing behaviour (Dugdill et al., 2005). Many patients see PA as a therapeutic possibility when referred by a GP (Thornton et al., 2016). The GP is also the first point of contact for people with a chronic disease and is therefore an approachable actor to stimulate them to exercise.

The aim of ERS is to support long-term PA behaviour change to prevent disease outcomes (Eynon et al., 2019). First endeavours to initiate ERS have been made during the early 1990s in the UK, with the aim to increase access to leisure centres (Pavey et al., 2011). After initiation, a rapid expansion of ERS occurred in the UK. Scandinavian countries quickly succeeded with adopting similar schemes. Other European countries among which the Netherlands followed approximately ten years later. Nonetheless, many differences in ERS exist between countries. Most schemes are using the same aim and overarching format, but names of the schemes vary both between and within countries (Arsenijevic & Groot, 2017; Eynon et al., 2019). Furthermore, the level of implementation differs. In the UK the ERS was designed on a national level, with each local community being allowed to develop its own unique programme (Arsenijevic & Groot, 2017). In other countries, for example in the Netherlands, an ERS has been developed on a local level, aiming at national expansion to eventually include the programme in the health insurance (Helmink, Raaijmakers, Rutten, Kremers & De Vries, 2013).

### ***Bewegen op Recept***

In the Netherlands, at least thirteen municipalities have implemented ERS, called *Bewegen op Recept* (BOR) in Dutch. There are no general guidelines for implementation of BOR which results in different approaches to implementation in every municipality. In general, the structure of BOR is as follows. Health professionals (GPs and nurse specialists) refer inactive patients or patients with a chronic illness who would benefit from PA to a Care

Sport Connector (CSC). A CSC connects primary care organisations with exercise facilities aiming to stimulate primary care patients to participate in PA (Leenaars, Smit, Wagemakers, Molleman & Koelen, 2018). The CSC invites the patient for an intake interview to investigate suitable exercise activities. The CSC refers the patient to the chosen exercise activity and, if needed, accompanies the patient to the first appointment. Exercise activities range from individual to group activities taking place at physiotherapist centres, local sport centres, or outside in the own neighbourhood, such as walking. Patients can exercise for three months at a reduced fee. The programmes are often subsidised by the municipality.

### **Motivation**

Overall, ERS seem to be effective but still many inconsistencies arise within research regarding the uptake and adherence of patients to the scheme (Pavey et al., 2011; Pavey et al., 2012). A previous evaluation of the programme in the Netherlands concluded that motivation is one of the main barriers preventing patients from participating in an ERS (Collard & Veninga, 2016). This coincides with scientific literature on this topic, in which motivation is mentioned to be a major barrier for patients to enrol in an ERS (Eynon et al., 2019; Leemrijse, Bakker, Ooms & Veenhof, 2015). Eynon et al. (2019) stated that mainly extrinsic motives are present in patients at the start of the programme. This means that patients are not motivated by enjoyment of exercise but by external factors which is not optimal for adherence to the programme. Subsequently, Moore, Moore & Murphy (2011) stated that motivation of patients is often low in the beginning of the programme but can increase throughout the programme. According to Littlecot, Moore, Moore, & Murphy (2014), health professionals refer patients based on their own subjective assessment of patients' motivation. This might lead to non-referral of patients because of a wrong indication by the health professional. From this it can be concluded that several barriers regarding patients' motivation exist and that it deserves more attention within scientific research.

### ***Self-Determination Theory***

Motivation is a broad and complex concept that can be explained using a continuum as described in the Self-Determination Theory (SDT) (see Appendix A, Deci & Ryan, 2002; Miquelon, Chamberland & Castonguay, 2017). The main categories of motivation within this continuum are amotivation, extrinsic motivation and intrinsic motivation. Amotivation is a complete lack of intention to act (Miquelon et al., 2017). People who are amotivated will not participate in an ERS. Extrinsic motivation can be defined as ‘doing an activity for external reasons’, which means that people participate in PA because of external factors such as rewards or to avoid disapproval (Teixeira, Carraça, Markland, Silva, & Ryan, 2012). Intrinsic motivation refers to when people participate in an ERS because they have feelings of enjoyment, personal accomplishment and excitement when participating (Teixeira et al., 2012). Intrinsic motivation appears to be the required type of motivation for optimising ERS adherence as patients participate due to their own interest in and enjoyment of exercise (Eynon et al, 2019; Morton, Biddle & Beauchamp, 2008). Intrinsically motivated patients are more self-determined to participate in PA, leading to greater uptake and adherence to an ERS.

Within the SDT, the Basic Psychological Needs Theory (BPNT) elaborates on three psychological needs that are related to motivation in health and wellbeing: autonomy, competence and relatedness (Eynon et al., 2019). Satisfying these needs will lead to more self-determined motives to start or continue exercising (Eynon et al., 2019; Teixeira et al., 2012). Autonomy is related to having control over the situation and not feeling controlled by an external factor. Competence is about feeling able to execute PA exercises, based upon previous experiences or based upon the feedback of a (sport) professional. Perceptions of personal connection with other people in the exercise group or outside the group are important for the concept of relatedness (Teixeira et al., 2012).

### ***Intrinsic motivation***

Eynon et al. (2019) concluded in their systematic review that intrinsic motivation to participate in an ERS is a prominent concept in many ERS-related studies. When studying the lack of intrinsic motivation of patients to PA, two broad reasons can be named. First, patients may not be sufficiently interested in PA, and second, they may not feel sufficiently competent at executing PA (Teixeira et al., 2012). This is related to autonomy and competence, two of the basic psychological needs of the SDT. Satisfying these needs would increase the intrinsic motivation of patients participating in an ERS. The importance of intrinsic motivation is supported by the research of Leemrijse et al. (2015), showing that health professionals state the lack of intrinsic motivation of the patient to be one of the most important barriers to refer patients to an ERS.

### ***External influences***

Birtwistle et al. (2018) concluded that patients were mostly extrinsically motivated at the moment of uptake of an ERS and were participating because others wanted them to. Therefore, external influences towards the motivation of patients should be studied to gain knowledge on how to shift patients' extrinsic motivation to intrinsic motivation. Multiple studies suggested that intrinsic motivation needs to be fostered by external factors during an ERS (Eynon, O'Donnell & Williams, 2017; Eynon et al., 2019). One of the most important external influences is support, which can come from peers, friends and family, or professionals (Birtwistle et al., 2018; Morgan et al., 2016). Of these types of support, professional support appeared to be one of the most important factors (Duda et al., 2014; Hancox, Quested, Ntoumanis & Thøgersen-Ntoumani, 2018; Morgan et al., 2016; Rouse, Ntoumanis, Duda, Jolly, & Williams, 2011). Within BOR, a distinction is made between health professionals (including GPs and nurse specialists) and sport professionals (including Care Sport Connectors (CSC) and Exercise Providers (EP)). Health professionals refer patients to the CSC. The CSC is the intermediary in the process who tries to find a suitable



exercise activity together with the patient. The CSC refers the patient to an EP, who is the direct trainer or coach during the exercise activity. EPs provide supervision during exercising and show patients how to use equipment, how to exercise effectively, and how to improve fitness (Morgan et al., 2016). Every professional might influence the patient at a different moment throughout the programme. Research regarding the influence of sport professionals is scarce compared to research about health professionals. In addition, the role of the CSC only exists in this way in the Netherlands, hence little research is available regarding the influence of the CSC in an ERS. Therefore, the focus of this study will be on the influence of sport professionals.

Overall, positive support of sport professionals appears to impact the autonomy, competence and relatedness of participants which can lead to more intrinsically motivated engagement (Eynon et al., 2019; Hancox et al., 2018). However, the exact role of sport professionals is still under discussion (Birtwistle et al., 2018; Huijg et al., 2015). Professionals mentioned several general barriers of referring patients to an ERS, among which a lack of time and formal education, perceived lack of patient receptiveness, and perceived limitations in counselling skills (Huijg et al., 2015; McKenna & Vernon, 2004). Moore et al. (2011) studied the attitude of sport professionals towards patient referral to exercise. They stated that sport professionals describe their role as providing education about the exercise environment to reduce anxieties, and to increase confidence and motivation of the patient. However, the level of motivation of patients at the beginning of the programme differs per individual. Individuals who are already slightly intrinsically motivated only need to be guided, but patients who are not motivated at all might need to be stimulated by external sources, such as the sport professional (Markland & Tobin, 2010). The issue in this situation is the fine line between influencing and pressuring the patient (Markland & Tobin, 2010). This can be substantiated by the study of Moore et al. (2011) in which professionals also raised concerns

about the levels of support they should provide to avoid dependence of the patient. Therefore, the current study focuses on the way in which sport professionals influence patients' motivation, as this is an area that needs more research.

### ***Strategies used by professionals***

Sport professionals might make use of motivational strategies to motivate patients. According to Hancox et al. (2018), a motivationally adaptive communication style works well in influencing patients' intrinsic motivation. Within this communication style, techniques such as autonomy support, providing structure, and interpersonal involvement are used. Using positive communication strategies appears to be effective in fostering the intrinsic motivation of the patient. Positive communication strategies mostly include empathy, structure, and interpersonal involvement (Birtwistle et al., 2018; Hancox et al., 2018). Negative strategies however can be detrimental in encouraging patients, possibly resulting in lower uptake levels to the ERS. Negative strategies include controlling or demanding behaviour by the professional (Birtwistle et al., 2018). Studies show that communication strategies should support the three basic psychological needs of patients - autonomy, competence, and relatedness - to stimulate the development of self-determined motives (Hancox et al., 2018; Moore et al., 2011).

However, sport professionals might not have the skills to use these strategies. Studying current skills and upskilling professionals can be beneficial for promoting future uptake by patients to an ERS (Birtwistle et al., 2018). Furthermore, the use of positive communication strategies in influencing patients' motivation should be studied. From this it can be determined whether using positive communication strategies is adequate or that more complex behaviour change techniques should be introduced, such as Motivational Interviewing (MI) (Moore et al., 2011). MI is a counselling style in which the professional

provides guidance and structure within a conversation to stimulate the patient to explore his or her internal conflicts to elicit intrinsic motivation for change (Rollnick & Allison, 2004).

### **The present study**

Overall, up-to-date scientific literature regarding the influence of sport professionals on the motivation of patients in an ERS remains incomplete (Din, Moore, Murphy, Wilkinson & Williams, 2015; Moore et al., 2011; Morton et al., 2008). First, the influence of sport professionals has been understudied compared to health professionals. Therefore, focusing on sport professionals might bring new insights to the knowledge base on ERS. From the existing literature it can be concluded that sport professionals seem to have an influence on patients' motivation, but that it is not clear how exactly their influence is related to the levels of participation of patients to the ERS (Littlecot et al., 2014). Birtwistle et al. (2018) stated the importance of studying current skills of professionals in order to know how to guide them in improving these skills. Furthermore, they recommended future research to focus on the influence of support on patients participating in an ERS. Therefore, this study responds to the research gap regarding the incomplete information about the influence of sport professionals in motivating patients during an ERS. The following research question is formulated to support this research: *How do sport professionals view patients' motivation to participate in an Exercise Referral Scheme and what is their influence on this motivation?* More specifically, the current study aims to investigate the following questions:

- *How do sport professionals view patients' motivation to participate in an ERS?*
- *How do sport professionals experience their influence on patients' motivation?*
- *What strategies do sport professionals use when motivating patients and what are the effects of these strategies?*

In order to investigate these research questions, the present study employed semi-structured interviews with 17 Dutch sport professionals working with BOR. The transcripts of the interviews were thematically analysed from which conclusions could be drawn.

Based on previous findings, it is expected to observe that sport professionals contribute to positively influencing patients' motivation to participate in an ERS, but only when communication by the professionals is positive and supportive towards the patient (Hancox et al., 2018). Too much pressure of professionals might be detrimental for the patients and too little encouragement might not have the intended effects (Morgan et al., 2016). Sport professionals might use communication strategies such as Motivational Interviewing, but this probably differs per individual and per municipality.

This study contributes to the incomplete knowledge base regarding the role of sport professionals in influencing the intrinsic motivation of patients who are referred to an ERS. The results of this study contribute to the research gap as mentioned by Littlecot et al. (2014), who suggests that more research is necessary to study the use of communication strategies within PA. The current study also addresses the research gap as mentioned by Birtwistle et al. (2018), who state that having more knowledge on upskilling professionals can be beneficial for promoting future uptake of patients. Together, findings of the current study would add to the literature on ERS.

The knowledge gained from this study can be used to improve existing ERS and to develop new programmes. This study focuses on the Dutch project *Bewegen op Recept*. This project can be improved based on the results of this study and recommendations can be formulated to expand BOR to more municipalities in the Netherlands. The study also adds to the international knowledge base on ERS. Other countries can use the results when developing new ERS or other exercise related interventions. Therefore, this study does not

only add to the scientific literature base on ERS, but also contributes to the development and improvement of PA programmes.

## **Methods**

### **Study design**

This study aimed to qualitatively describe the views and experiences of sport professionals regarding the motivation of patients in an ERS, and the influence sport professionals experience to have in motivating patients who were referred to an ERS. Semi-structured interviews were conducted with 17 sport professionals from five municipalities in the Netherlands. A qualitative study design is suitable for this study because of the aim to understand common themes and patterns across professionals and municipalities (Patton, 2002). A qualitative approach leaves room for adaptations to the study design while developing it which is beneficial for a study aiming to gain new insights (Suter, 2012). The qualitative design also allowed to adapt the study approach to each municipality (Suter, 2012). The study had an inductive approach which means that while developing the study, the focus was determined and specified. The interviews were conducted using a semi-structured interview guide based on existing literature which resulted in a reliable and detailed data set. The data was thematically analysed from which the conclusions could be generalised to the broader context using a bottom-up approach (Suter, 2012). The proposal of the study was ethically approved by the Interdisciplinary Social Science Ethics Advisory Committee of Universiteit Utrecht.

### **Participants**

Data was gathered using a semi-structured interview approach in which both Care Sport Connectors (CSC) and Exercise Providers (EP) were interviewed. Five municipalities in the Netherlands were included: Lingewaard, Nieuwegein, Schiedam, Utrechtse Heuvelrug and Weert. These municipalities were chosen because *Bewegen op Recept* was already

successfully implemented in these municipalities for a few years. Therefore, all participants to the study had experience with the programme. Professionals were excluded if they did not have experience with the programme, if they had not directly worked with patients, and if they did not work in one of the selected municipalities.

The municipality of Nieuwegein was included because the internship organisation evaluated the programme in this municipality. Four interviews with CSCs were conducted together with a researcher of the internship organisation. Participants for the interviews were recruited by the researcher of the internship organisation via the contact person in the municipality.

The other municipalities were approached by contacting the project leader of BOR in every municipality. This contact person approached experienced sport professionals in their municipality. If these sport professionals agreed on participating in an interview, their contact information was forwarded to the researcher. The professionals were approached via email or telephone to ask for participation in an interview.

In total, 17 sport professionals participated, consisting of nine CSCs and eight EPs (table 1). The number of participants per municipality was almost evenly distributed. Only the number of participants in Schiedam was lower compared to the other municipalities because CSCs are not involved in the programme in Schiedam. Therefore, in Schiedam only EPs were included in the study.

**Table 1**

*Characteristics of the study population*

| Municipalities      | Participants |      |         |
|---------------------|--------------|------|---------|
|                     | N CSC        | N EP | N total |
| Lingewaard          | 2            | 2    | 4       |
| Nieuwegein          | 4            | dna  | 4       |
| Utrechtse Heuvelrug | 1            | 3    | 4       |
| Schiedam            | dna          | 2    | 2       |
| Weert               | 2            | 1    | 3       |
| Total               | 9            | 8    | 17      |

*Note.* This table demonstrates the number of CSCs and EPs included in the study per municipality.

### **Data collection**

To study motivation, the concept was first operationalised as ‘the underlying attitudes and goals that give rise to action’ (Ryan & Deci, 2000). The influence of sports professionals on the motivation of the patient was indicated as increasing or decreasing the motivation of the patient, or, in other words, stimulating or discouraging the patient to take up the programme.

Semi-structured interviews were conducted because of the study aim to explore the experiences and views of sport professionals. The main advantage of a semi-structured interview approach is the flexibility in the design which creates the possibility of the researcher to react to the answers of the participant, possibly gaining more in-depth information (Fylan, 2005). On the other hand, this approach also leaves room for interpretation of the researcher which may create differences in the approach between researchers. However, using the semi-structured interview guide increases reliability as another researcher can structure the interview in a similar way. The interview guide was developed in collaboration with researchers of the internship organisation and based on existing literature (Graham, Dugdill & Cable, 2007; Moore et al., 2011). For both CSCs and EPs, a separate interview guide was developed because of their different roles within the programme. Examples of questions are ‘Why do you think patients want to start exercising?’ and ‘How do you try to influence the motivation of the patient?’ (see Appendix B). The first interview was used as a pilot interview after which a few small alterations were made to the interview guide. This resulted in suitable questions for the target population and accurate measurement (Adams, 2015). Overall, the semi-structured interview approach seems suitable for this study design because it provides the opportunity to gain in-depth information which is

beneficial when studying views and experiences of the participants (Adams, 2015, Fylan, 2005).

The interviews took place online or via telephone in March and April 2020. In advance of the interview, an information letter and informed consent form were sent to the participants by email. They were asked to read the information letter which included all relevant information on the study and on the ethical aspects, e.g. it provided information on anonymity and storage of the data. Thereafter, participants were asked to sign the informed consent form.

### **Data management and analysis**

Interviews were recorded and transcribed verbatim. The transcripts were pseudonymized which means that personal information was deleted or altered from the transcripts. Participants were given numbers and a separate document links the numbers and names. The transcripts and audio recordings were saved on the secured server of the internship organisation. After finishing the thesis, the data will be stored on the server of Utrecht University. If the data is not used within ten years after finalising the thesis, it will be terminated.

Transcripts were thematically analysed in the coding programme NVivo. Thematic analysis is a suitable technique within qualitative data analysis as it focuses on identifying, analysing, and reporting patterns within the data (Braun & Clarke, 2006). Thematic analysis consists of several steps of data coding which has been followed to obtain detailed results from which the conclusions could be drawn. At first, coding was performed deductively based on the research questions: Codes were categorised in three groups, focusing on patients' motivation, professionals' influence, and professionals' strategies. After initial categorisation, the data was coded within every category. This step of open coding focused on identifying, labelling and classifying relevant information into overarching concepts (Suter, 2012). The identified codes within the open coding process were structured in the next step of axial



coding. Within this step, codes were grouped to combine related or interacting codes with each other. Lastly, selective coding was executed, in which the conceptual structure within the data was identified (Suter, 2012). During this step the code tree was finalised, and conclusions could be drawn (see appendix C). The entire coding process was an iterative process in which there was the possibility to go back-and-forth between steps (Suter, 2012).

## **Results**

The results section is divided in three categories based on the research questions. First, the view of sport professionals on patients' motivation is elaborated on. Second, the experience of sport professionals in influencing patients' motivation is explained. Lastly, strategies how to influence patients' motivation used by sport professionals are clarified.

### **Views of professionals regarding patients' motivation**

Sport professionals were asked how they view patients' motivation and what they experience to be the most important factors regarding motivation of patients to participate in an ERS. Patients being intrinsically motivated appeared to be one of the most important factors related to the uptake of an ERS. Professionals stated the importance of patients being at least slightly intrinsically motivated at the beginning of the programme. The intrinsic motivation can increase throughout the programme, according to the professionals.

*And, well, the intrinsic motivation needs to be fuelled, be hit in the right way. And, yes, then they are all very positive. (EP5)*

### ***Importance of the basic psychological needs***

Every sport professional mentioned at least one of the three basic psychological needs from the Self-Determination Theory to be important. Relatedness appeared to be the most important factor influencing patients' motivation within the SDT, as it was mentioned by 15 professionals. Several types of relatedness can be distinguished based on the sport professionals' views: friends or family support, peer support and professional support. Peer

support was the most important category within relatedness with 13 professionals mentioning it in the interview, compared to two (friends or family support) and five (professional support). Several explanations were provided for the importance of peer support. The exercise group consisting of like-minded people or people with similar conditions puts patient at ease and made them feel comfortable in the exercise group. Furthermore, the feeling of being part of something was beneficial for adherence to the programme. This was often attained by creating group activities outside exercising, for example drinking a cup of coffee after training. This resulted in personal connections between group members which made participants enthusiastic to continue with the programme.

*And I think it is very important that they are directly placed in the right activity because of the social binding within the exercise group. And that eventually gives the drive to continue. (CSC9)*

However, it is also very important to keep the individual preferences of the participant into consideration. Not every individual wants to exercise in a group and if there is a negative attitude towards it, this will only discourage the participant to continue exercising.

Regarding autonomy, professionals mainly mentioned the importance of freedom of choice for participants. If participants have the possibility to choose the exercise activity they want to do, this will increase the likelihood of continuation of the exercise activity.

*Eventually we think it is important that they are doing something they like. (EP7)*

On the other hand, one sport professional stated that participants should also be encouraged to go outside their comfort zone and should be stimulated to try something they have not tried before.

Lastly, sport professionals had different opinions regarding the importance of competence within an ERS. Some EPs mentioned patients' competence in executing PA to be very important to start or continue with the ERS. These EPs started the training programme

with one-on-one training to teach the participant the necessary skills, so the participant would feel more confident in executing the activities when participating in a group.

*We actually teach them all exercises separately. So, if people have inadequate motor cognition, or motor skills, then you take those people separately to teach them the basic skills. (EP3)*

Others stated that patients' competence will grow during the exercise programme and that a lack of competence is not an obstacle to start with the programme. Overall, there was agreement on the fact that participants should be prevented from starting with an activity that exceeds their physical ability to execute it. This would only be discouraging for continuation of the programme. All professionals were on the same page regarding every participant being able to learn the necessary skills by training and that intensity of the training could be increased with time.

### ***Attitude towards exercising***

Besides the three basic psychological needs, professionals mentioned patients' attitude to be important regarding participation in an ERS. Professionals often perceive a negative attitude of patients towards exercising. Patients are reluctant to start exercising because they are often insecure and do not know what to expect from the exercise activities. Some patients feel shame because of the conception of inability to execute the activities or they feel shame for their own bodies. Patients feel like they might not be able to participate in the exercise activities due to their physical conditions. This leads to avoidance of the patients to start exercising.

*And in general, I don't know, they don't have a lot of confidence in their own body. (EP5)*

Professionals also mentioned some positive attitudinal factors of patients. However, these are mentioned less frequently compared to negative attitudinal factors. Positive factors are mainly

related to feelings of enjoyment of exercise. The ERS also provides feelings of safety for the patients because of the possibility to exercise in a group with like-minded people and having a professional trainer around. Lastly, self-confidence of patients is important to continue with the exercise activity. Professionals stated that an increase in self-confidence leads to an increase in enjoyment of exercise activities.

*But that's most important to me, that someone has a positive attitude regarding the activities. Then they persevere the longest. (CSC4)*

### ***Change in motivation***

Eleven out of 17 sport professionals experienced change within the motivation of patients during the programme. These changes consisted mainly of an increase in self-confidence, an increase in positive attitude towards the programme, and physical improvements due to exercising. Other positive consequences for patients mentioned by sport professionals are increased feelings of belonging and reduction in medication use.

*He [participant] says, the fact that I belong to something and can participate, that's worth so much to me. (CSC9)*

### **Sport professionals' experiences in influencing patients**

Sport professionals thought to have an influence on patients' motivation. The first step in influencing the motivation is to create a connection with the patient by bonding, as mentioned by eight sport professionals. This could be very beneficial in the exercise trajectory of the patient.

*Because eventually, the most important thing is to build a bond with a client. So, you are not just talking about training, also about private life. (EP7)*

### ***Professionalism and presence of sport professionals***

An overarching theme regarding the influence of sport professionals included professionalism and presence of sport professionals: patients feel safe in the presence of sport

professionals and they have the feeling professionals can keep an eye on them. Three categories could be identified within this theme: individual and customized guidance, medical and programme knowledge, and feelings of safety for the patient.

**Individual and customized guidance.** Providing individual and customized guidance to patients throughout the trajectory is very important according to the sport professionals. This category contains the guidance of EPs within the training programme. The ability of EPs to adapt the training programme to individual needs is highly valued by patients. Especially one-on-one guidance is valued, although this is more important to patients in the beginning of the trajectory than in the end. This coincides with the concept of competence as mentioned before, in which professionals provide one-on-one guidance to increase the feeling of competence in patients.

**Medical and programme knowledge.** One of the reasons why the presence of sport professionals is valued is because of their knowledge. EPs are often physiotherapists or educated trainers. According to the sport professionals, patients have confidence in the knowledge of EPs and therefore value their opinion during trainings. Patients will drop out of the programme earlier when the EP is not (properly) educated in providing exercise.

*So, you mainly see the paramedic part, paramedic specialism, that has a big added value in the trajectory. (EP3)*

However, the sport professionals also mentioned that there are still knowledge gaps across participating EPs. Not all EPs have the required knowledge to train and guide the vulnerable target group to exercise in an ERS.

CSCs on the other hand have a lot of programme knowledge, they know the available exercise activities and they have connections with other professionals within the programme. This makes them an approachable and credible actor for patients who want to be guided towards exercise.

**Feelings of safety for the patient.** Related to the knowledge of professionals is the feeling of safety for patients. Professionals explained that patients feel safe in the presence of a skilled trainer because the trainer will guide them through exercising and adapts the training if it is not comfortable or suitable for the patient. The target group of ERS are vulnerable patients with chronic illness who are insecure about exercising. They often do not know what kind of exercises they are able to execute, and the presence of the professionals comforts them in knowing they won't get hurt by exercising.

*Some of them [participants] are very careful and anxious. So, they really appreciate the presence of professional guidance. (EP1)*

### **Conclusion**

The three subcategories mentioned above all relate to autonomy, competence, and relatedness, the three basic psychological needs of the SDT. Because of the sport professionals' presence and professionalism, patients' feel comfortable, competent, and supported when exercising which motivates them to continue participating in the exercise activity.

### **Strategies used by sport professionals**

Not all sport professionals use specific strategies to motivate patients. Five out of nine CSCs said to motivate based on their own intuition instead of using specific strategies, meaning that they follow their own experiences and beliefs instead of using substantiated motivational techniques. However, the CSCs also mentioned they would like to have more knowledge on using motivational strategies. According to the CSCs, having knowledge on motivational strategies such as Motivational Interviewing, a counselling technique in which the professional supports the patient to elicit his own intrinsic motivation for change, can be very beneficial in motivating the patient.

*Yes, it remains to be a difficult target group so I think that that [education] can be a very good addition if CSCs who conduct the intake interviews, have a training for that, that would be great. (CSC4)*

Only one of the EPs said to motivate on intuition. This EP said that her presence probably is important to the patients, but she does not have a specific strategy on how to motivate them and that this happens mostly unconsciously.

Overall, CSCs and EPs have a different role within the ERS: the CSC is the intermediary who refers the patient to exercise while the EP is the person who coaches the patient throughout exercising. Therefore, strategies used to motivate patients vary between both groups and are described separately.

#### ***Use of strategies by CSCs***

Strategies used by CSCs to motivate patients can be divided into four categories: 1) accompanying the patient to the first exercise appointment, 2) using positive communication, 3) providing alternative exercise opportunities, and 4) using substantiated strategies.

**Accompanying the patient to the first exercise appointment.** Eight CSCs and four EPs mentioned the importance of the CSC accompanying the patient to the first exercise appointment. Patients are often vulnerable and insecure, so the presence of the CSC at the first exercise appointment removes the insecurity and makes the exercise activity approachable for the patient in the future. The professionals call this a warm transfer of the patient.

*But this trajectory of keeping the patient close, especially in the beginning, yes, that is very positive. (EP7)*

**Using positive communication.** Positive communication consists of several activities. CSCs mentioned that the intake interview should be an open and honest conversation. The CSCs share their own experiences to provide some examples for the patient. This makes the patient feel comfortable to share personal information which enables the CSC to consider all

important aspects of the patients' life when deciding on the right exercise activity for the patient. CSCs also try to motivate patients by stimulating them to participate in exercise and steering them towards specific exercise activities the CSC thinks might be most suitable for the patient.

**Providing alternative exercise opportunities.** CSCs repeatedly mentioned the importance of free choice of the patient, mainly regarding the exercise activity. By providing alternative exercise possibilities when the exercise activity does not meet the expectations, the CSC prevents the patient from dropping out of the programme.

*We do everything we can to serve the patient as good as possible. So, we also look for alternative exercise activities for that person. (CSC5)*

**Using substantiated strategies.** Two of the CSCs mentioned to use Motivational Interviewing to motivate patients. Motivational Interviewing focuses on supporting the patient by asking the right questions to stimulate the patient to decide for themselves (Rollnick & Allison, 2004).

*That's also what I say about Motivational Interviewing, we don't impose on the decision, but we discuss the possibilities and we let the participant decide. (CSC8)*

Other substantiated strategies used by CSCs include making a pros and cons list or using a Likert Scale to rate for example the level of health. The CSC used this information to open up the conversation in the intake interview.

### ***Use of strategies by EPs***

Techniques used by EPs can be divided into four categories: 1) let patients experience, 2) using positive communication, 3) providing a variety in activities, and 4) using substantiated strategies.

**Let patients experience.** Seven EPs mentioned the importance of patients having a positive experience while exercising. When patients experience the positive aspects of



exercising, such as doing an activity in a group or achieving physical progress within the exercises, they will develop a positive attitude towards exercising, which increases their intrinsic motivation resulting in adherence to the programme.

*Yes, I can tell them, but if they experience, that has more impact. (EP1)*

**Using positive communication.** EPs use positive communication mainly to create an open conversation in which they advise, inform and activate patients. This is important during the intake appointment and subsequently during training. During exercising, it is important to create a positive atmosphere by complimenting patients with the work they are doing. Because of the vulnerability of the target group, this relatively simple way of communicating can already increase the motivation of patients. Lastly, positive communication is important during evaluation moments. Professionals provide the patients with positive feedback regarding their progress.

*I think actually, especially in this category, that it is not that complicated, you should just listen to them and compliment them when they are doing good. Often that's already enough. (EP5)*

**Providing a variety in activities.** When EPs acknowledge a drop in the motivation of patients, most of them mentioned providing different activities as a solution. Adapting the training schedule or trying out an entirely new exercise activity can be beneficial in the perseverance of exercising of the patient.

**Using substantiated strategies.** Four EPs mentioned to use Motivational Interviewing during the exercise activity. Three of them were physiotherapists who learned about Motivational Interviewing in their education and were still in favour of using this technique. EPs also used techniques such as coaching and goal setting during their trainings. Some other substantiated techniques were used by EPs, but this differed per individual and depended on the training and education followed by the EP.

### ***Conducting evaluation and monitoring***

In total, 11 professionals mentioned the importance of evaluating and monitoring the patients during and after participation in the ERS. Monitoring contributes to binding the patient to the exercise facility and making sure the patient continues exercising at the exercise facility after termination of the ERS. Besides, patients feel seen when conducting evaluations and they feel like they are taken seriously. However, the advantages of the evaluation or monitoring depend on the way of executing it. According to the sport professionals, face to face evaluations are valued more compared to evaluations via email or telephone.

### **Discussion**

In order to answer the research question '*How do sport professionals view patients' motivation to participate in an Exercise Referral Scheme and what is their influence on this motivation?*', 17 sport professionals have been interviewed on their views and experiences in motivating patients within an ERS. According to the sport professionals, the most important factors within patients' motivation are the three basic psychological needs and patients' attitude towards exercise. Professionals experienced their professionalism and presence as important factors in motivating patients. However, not all of them used specific strategies or techniques to motivate patients. Especially CSCs mentioned that they would like to be educated about motivational strategies in ERS to be better able to motivate the patient.

### **Sport professionals' views on patients' motivation**

Sport professionals expressed motivation to be an important factor for patients to enrol in and adhere to an ERS. Several factors contributed to this motivation. Of the three basic psychological needs, relatedness was mentioned the most. The presence of like-minded people results in peer support, motivating patients to adhere to the exercise activity. However, more research on relatedness is necessary because of disagreement within current research. Both Eynon et al. (2019) and Mills, Crone, James & Johnston (2013) agree on the importance

of relatedness as mentioned in this study. Rodrigues et al. (2018) on the other hand, found relatedness to have the lowest correlation with PA maintenance of the three determinants. This contradiction should be studied by future research. Besides relatedness, sport professionals mentioned autonomy to be important because it provides freedom of choice for the patient. This finding is supported by Rodrigues et al. (2018) who state that patients adhere to an exercise activity when having freedom of choice. Overall, every sport professional mentioned at least one of the three concepts of the SDT, from which can be concluded that the SDT is a suitable theory to use in ERS research. However, the SDT does not cover every aspect of patients' motivation. Professionals named several positive and negative attitudinal factors that may influence patients' motivation. According to the sport professionals, patients often have a negative attitude at the beginning of the programme because they do not know what to expect and might feel fear towards exercising. Sport professionals experience changes in patients' attitude as a result of an increasing competence to execute exercises. Exercising frequently increases feelings of enjoyment of exercise, which is one of the indicators for intrinsic motivation (Teixeira et al., 2012). This is supported by Stathi, McKenna, & Fox (2004) who found a positive attitude towards exercising to be beneficial for adherence to the programme.

### **Sport professionals' experiences in motivating patients**

Results of this study showed that sport professionals feel that they have an influence on patients' intrinsic motivation. This is supported by research of Eynon et al. (2019) who state that sport professionals can act as an external influence to increase patients' intrinsic motivation. The sport professionals mentioned their presence during exercising and their professionalism regarding PA and the programme to be important factors. CSCs are an approachable actor for patients because of their programme knowledge. They support the patient while searching for an appropriate exercise activity. EPs on the other hand can tailor

the exercise programme to the individual needs of a patient because of their medical knowledge and experience in coaching. According to the sport professionals, patients feel safe in the presence of an educated EP. This is supported by previous research of Moore et al. (2011) and Mills et al. (2013), who state that EPs provide supervision and guidance which makes patients feel confident in executing exercise activities. Furthermore, sport professionals acknowledge the freedom of choice of the participants, creating an autonomous environment to exercise in. EPs aim to increase patients' competence to exercise by coaching them during exercising. Lastly, sport professionals try to create an environment in which patients can exercise together with like-minded people. They also organise social activities besides exercise to provide the opportunity to create personal connections between patients, meeting the need of relatedness. Therefore, sport professionals have the capacity to contribute to their patients' fulfilment of the basic psychological needs of the SDT, thereby increasing patients' intrinsic motivation.

### **Sport professionals' use of strategies**

All sport professionals have different ways of motivating patients. Some professionals, especially CSCs, said to not use any strategies in particular but to rely on their intuition to motivate patients. An explanation for this may be that the CSCs do not have sufficient knowledge of or experience with using motivational strategies. However, the majority of the sport professionals used at least one strategy, although not all strategies were scientifically substantiated. CSCs and EPs mentioned to use different strategies. CSCs mainly motivate patients through communicational strategies within the intake interview. They try to make the patient feel comfortable by sharing their own experiences. Only two CSCs said to use Motivational Interviewing in the intake interviews. The majority of the CSCs expressed having a lack of knowledge and skills regarding motivational strategies such as Motivational Interviewing. They would like to be trained to use motivational strategies because they

believe in the added value of using such strategies. EPs on the other hand motivate mainly during exercising. They use positive communication during trainings and evaluations, and they compliment patients when they succeed at performing activities. This coincides with the findings of Hancox et al. (2018) who found positive communication to be highly important in motivating people within PA. Furthermore, EPs want to let patients experience the positive effects of PA which may lead to patients being more intrinsically motivated. This coincides with the systematic review of Morgan et al. (2016) who stated that not all people enjoy the exercise activity itself, but they value the positive consequences they experience. Several EPs indicated to use Motivational Interviewing during conversations as a strategy to motivate. These EPs were mostly physiotherapists who have experience with Motivational Interviewing from their education. Other techniques EPs mentioned are coaching and goal setting. As expected, all sport professionals use techniques they are comfortable with and have knowledge of. This varied between CSCs and EPs and between municipalities.

Both CSCs and EPs mentioned the importance of monitoring the patients during and after the programme. Monitoring found place at a regular basis, mostly every three to five weeks. With monitoring on a regular basis, patients could see the progress they made by exercising. It also provides a one-on-one moment with the sport professional in which experiences could be exchanged. According to the sport professionals, this contributed to the increase of intrinsic motivation. Eynon et al. (2019) supports this outcome by concluding that monitoring patients on a regular basis can be used to keep patients motivated.

Based on these findings, it can be concluded that sport professionals do have potential to enhance patients' motivation to participate in an ERS. This clarifies the role of the sport professionals within the context of an ERS and adds to existing literature. A main practical implication is the necessity of trainings in motivational strategies for sport professionals to enable them to sufficiently motivate patients. This responds to the research gap as mentioned

by Birtwistle et al. (2018) who stated that more knowledge is necessary on the current role of sport professionals to contribute to upskilling the professionals.

### **Strengths and limitations**

By recruiting sport professionals from several municipalities throughout the country, selection bias was minimised because of randomisation of the study population. Professionals in different municipalities were independent of each other. Therefore, the participant group is a good representative of the target population. Besides, the size of the participant group is a strength to this study. Seventeen sport professionals are included of which nine CSCs and eight EPs. This resulted in a reliable study population and the opportunity to compare both groups to each other. Another strength to the study was the use of a qualitative approach which enables the possibility to study the topic in-depth. Participants were encouraged to elaborate on their answers during the interviews, resulting in the collection of detailed and high-quality data. All interviews have been conducted by one researcher using a semi-structured interview guide. Semi-structured interviews are prone to observer bias. The researcher must stay objective and must avoid unintentionally influencing participants. The interview guide assists the researcher to stay objective by providing structure within the interview. The same limitation of objectivity applies to the analysis of the data. The level of interpretation within data analysis can be disadvantageous. This limitation is mitigated by discussing the results with colleagues of the internship organisation to ascertain the objectivity of the results. Lastly, a limitation of this study was the exclusion of health professionals. Initially, the aim of this study was to include health professionals in the study population to include all professionals within an ERS. However, due to the coronavirus, health professionals had other priorities and were not able to participate in an interview. Therefore, it was decided to exclude health professionals from the study. Nonetheless, the

shifted focus towards sport professionals resulted in responding to a different research gap as research focusing on sport professionals in ERS was incomplete.

The external validity of this study is high within the Netherlands or other countries having a similar ERS structure. Professionals were approached within five different municipalities and both CSCs and EPs were included in the study. Information from five municipalities can be generalised to ERS throughout the country. Other countries may have slightly different structures within the organisation of ERS, which might give more difficulties generalising the results to other countries. The ecological validity is high as well. The results of this study, based on the interviews with the sport professionals, can be used directly in ERS in the Netherlands to improve or adapt the programme if deemed necessary.

### **Implications and recommendations**

This study contributes to the scientific knowledge base on ERS and can be used in improving existing ERS or developing new PA interventions. When developing new programmes or improving existing ERS, the CSC should get clear guidelines on how to refer the patient. The EP should get guidance on how to train the vulnerable and insecure target group. Both CSCs and EPs need to be trained on using motivational strategies as this turned out to be an important factor in motivating patients. Future research on ERS should include health professionals in the target population to create a coherent study population that can take every aspect of the ERS into account. Besides, including patients in the study is recommended in order to verify professionals' views on patients' motivation. Future research can focus on quantitatively testing the effectiveness of current attempts of sport professionals to motivate patients. This study provided a research base on the influence of sport professionals and can be used as a reference document for further experimental research.

A theoretical model that has been extensively used in previous ERS research is the Socio-Ecological Model (SEM) (Birtwistle et al., 2018). The SEM suggests that behaviour is

a result of multiple influences interacting among each other, namely intrapersonal, interpersonal, organisational, environmental and policy factors (Sallis, Owen & Fisher, 2008). The SEM does not only focus on the relation between the professional and the patient, as has been done in this study, but also includes environmental influences that might have an influence on the exercise behaviour of patients. The SEM can be a valuable framework to use in ERS research by studying relations between different levels (Birtwistle et al., 2018). Therefore, it is suggested that future research should include the SEM in the theoretical framework.

### **Conclusion**

To conclude, according to sport professionals, many determinants have an influence on patients' motivation. Most determinants can be linked to the Self-Determination Theory and the attitude of the patients. Sport professionals experienced to have an influence on patients' motivation, mainly because of their presence and ability to provide individual tailoring and to guide the patient through the exercise activities. Strategies that are used vary between CSCs and EPs, in which CSCs mainly use communication strategies and EPs mainly focus on strategies such as coaching. Both groups mentioned to be willing to participate in trainings to increase their knowledge on motivational strategies, as these strategies are valued by the sport professionals to motivate patients. Overall, the use of strategies was very personal and differed per individual and municipality. Both groups of professionals mentioned the importance of a positive approach towards the patient because of the vulnerability and insecurity of the target group. This coincides with the expectations formulated at the beginning of the study, in which positive communication was expected to be an important factor.



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Appendix A  
 Motivation Continuum

Self-determination theory: SDT

|                                     |                                     |  |                               |                              |                              |                             |
|-------------------------------------|-------------------------------------|--|-------------------------------|------------------------------|------------------------------|-----------------------------|
| <b>Quality of Behavior</b>          | <b>Nonsel-</b><br><b>determined</b> |  |                               |                              |                              | <b>Self-determined</b>      |
| <b>Type of Motivation</b>           | <b>Amotivation</b>                  | <b>Extrinsic Motivation</b>  |                               |                              |                              | <b>Intrinsic Motivation</b> |
| <b>Type of Regulation</b>           | <b>Non-regulation</b>               | <b>External Regulation</b>   | <b>Introjected Regulation</b> | <b>Identified Regulation</b> | <b>Integrated Regulation</b> | <b>Intrinsic Regulation</b> |
| <b>Perceived Locus of Causality</b> | <b>Impersonal</b>                   | <b>External</b>  | <b>Somewhat External</b>      | <b>Somewhat Internal</b>     | <b>Internal</b>              | <b>Internal</b>             |

Appendix A. Visual representation of the motivation continuum. Adapted from “Handbook of self-determination research” by Deci, E.L., & Ryan, R.M. (2002).



## Appendix B

### Interview guide

#### **Interview guide buurtsportcoach**

##### *Algemeen*

- Hoe ziet BOR er in uw gemeente uit?
  - o Welke partijen zijn hierbij betrokken?
- Wat vindt u van de organisatie van BOR op deze manier?
  - o Waarom vindt u deze organisatie wel/niet goed?

*In de rest van het interview wil ik de processtappen van BOR doorlopen, te beginnen bij de doorverwijzing van de patiënt vanuit de zorgprofessional.*

##### *Doorverwijzing vanuit zorgprofessional*

- Van wie krijgt u meestal de patiënt doorverwezen? *Huisarts, POH, fysio*
- Wat vindt u van het verwijzen van patiënten naar sport en bewegen door zorgprofessionals?
- Vindt u dat de juiste patiënten worden doorverwezen?
  - o Wat vindt u een 'juiste' patiënt?
- Hoe verloopt de doorverwijzing?
  - o Neemt u zelf contact op met de patiënt?

##### *Gesprek met patiënt*

- Hoe verloopt het eerste gesprek met een patiënt?
- Heeft u een standaard leidraad of richtlijn voor dit gesprek?
- Waarom denkt u dat patiënten willen beginnen met sport of bewegen?
- Wat zijn voor u redenen om patiënten door te verwijzen naar sport en bewegen?
- Welke aspecten in het gedrag of de persoonlijkheid van de patiënt vindt u belangrijk met betrekking tot sport en bewegen?

- Denkt u dat motivatie belangrijk is voor de patiënt om te starten met BOR?
  - Hoe beoordeelt u de motivatie van de patiënt?
  - Wanneer is een patiënt in uw ogen goed gemotiveerd?
  - Probeert u de motivatie van de patiënt te beïnvloeden?
    - Zo ja, hoe probeert u dit?
    - Waarom gebruikt u deze aanpak/ deze technieken?
    - Zou u zeggen dat het u lukt om de motivatie van de patiënt op deze manier te beïnvloeden?
      - Zo niet, wat heeft u nodig om deze patiënt te kunnen motiveren?
  - Er bestaan allerlei technieken om motivatie te beïnvloeden zoals Motivational Interviewing. Maakt u hier gebruik van bij het verwijzen naar sportaanbod?
  - Gebruikt u dergelijke motiverende technieken op andere onderdelen/gebieden binnen uw werk? (*denk aan Motivational Interviewing, goal setting, etc.*)
    - Zo ja, zou u deze ook voor bewegen/BOR kunnen gebruiken?
  - Denkt u dat er andere factoren zijn die de motivatie van de patiënt erg beïnvloeden? *U kunt hierbij denken aan de sociale of fysieke omgeving van de patiënt.*
    - Zo ja, wat zijn deze factoren?
    - Welke van deze factoren denkt u dat het belangrijkste is?
- *Huidige kennis over de motivatie van de patiënt toont dat bepaalde factoren belangrijk zijn in het motiveren van de patiënt. Ik wil deze aspecten graag een voor een doorlopen en dan wil ik u vragen of u kunt vertellen of u ook merkt dat patiënten/deelnemers dit belangrijk vinden.*
  - Vrijheid in het sporten

- Zelfverzekerdheid in het sporten
- De vaardigheden hebben om te kunnen sporten
- Aanwezigheid van een (professionele) trainer
- Aanwezigheid van anderen
  - Welke factor denkt u dat het meest belangrijk is voor de patiënt?
- Wat zijn uw algemene ervaringen met het intakegesprek met de patiënt?

### ***Doorverwijzing naar sportaanbod***

- Hoe bepaalt u naar welk sportaanbod u de patiënt verwijst?
- Hoe gaat deze doorverwijzing in z'n werk?
- Heeft u het gevoel dat u de patiënt *kunt* doorverwijzen naar het juiste sportaanbod?

*Denk aan juiste kennis, middelen, contacten*

- Heeft u na de doorverwijzing nog contact met de patiënt?

### ***Afsluiting***

- Wilt u nog iets toevoegen?

## **Interview guide sportaanbieder**

### ***Algemeen***

- Hoe ziet BOR er in uw gemeente uit? Hoe verloopt het proces?
  - Welke partijen zijn hierbij betrokken?
- Wat vindt u van de organisatie van BOR op deze manier?
  - Waarom vindt u deze organisatie wel/niet goed?

*In de rest van het interview wil ik de processtappen van BOR doorlopen, te beginnen bij de doorverwijzing vanuit de BSC/zorgprofessional.*

### ***Doorverwijzing deelnemer***

- Wie verwijst deelnemers door naar uw sportaanbod?

- Wat vindt u ervan dat patiënten worden doorverwezen naar sport vanuit de zorg?
- Worden de juiste personen doorverwezen?
  - o Wat vindt u een 'juiste' patiënt?
- Denkt u dat de juiste partijen betrokken zijn bij het doorverwijzingsproces?

### ***Beweegproces***

- Hoe verloopt de verwijzing van de zorgverlener/BSC naar u?
  - o Neemt u contact op met de deelnemer? Of de deelnemer met u?
- Hoe verloopt het eerste contact met de deelnemer?
  - o Is er een kennismakingsgesprek?
  - o Is de verwijzer hierbij aanwezig?
- Krijgt de deelnemer (individuele) begeleiding? Hoe verloopt deze?
- Heeft de begeleiding goed zicht op het traject van de deelnemer?
- Wat zijn uw ervaringen met de motivatie van deelnemers?
  - o Denkt u dat motivatie belangrijk is voor de deelnemer om te starten met sporten?
  - o Hoe beoordeelt u de motivatie van de deelnemer?
  - o Wanneer is een deelnemer in uw ogen goed gemotiveerd?
  - o Ziet u veranderingen in de motivatie van de deelnemer naarmate de deelnemer langer sport?
    - Waardoor komt dat denkt u?
  - o Probeert u de motivatie van de patiënt te beïnvloeden?
    - Zo ja, hoe probeert u dit?
    - Waarom gebruikt u deze aanpak/ deze technieken?
    - Zou u zeggen dat het u lukt om de motivatie van de patiënt op deze manier te beïnvloeden?

- Zo niet, wat heeft u nodig om deze patiënt te kunnen motiveren?
- Gebruikt u over het algemeen motiverende technieken tijdens uw werk?
  - Zo ja, zouden deze ook toe te passen zijn op deelnemers aan BOR?
- Denkt u dat er andere factoren zijn die de motivatie van de patiënt erg beïnvloeden? *U kunt hierbij denken aan de sociale of fysieke omgeving van de patiënt.*
  - Zo ja, wat zijn deze factoren?
  - Welke van deze factoren denkt u dat het belangrijkste is?
- *Huidige kennis over de motivatie van de deelnemer toont dat bepaalde factoren belangrijk zijn in het motiveren van de deelnemer. Ik wil deze aspecten graag een voor een doorlopen en dan wil ik u vragen of u kunt vertellen of u dit ook merkt?*
  - Aanwezigheid van een (professionele) trainer
  - Aanwezigheid van anderen
  - Vrijheid in het sporten
  - Zelfverzekerdheid in het sporten
  - De vaardigheden hebben om te kunnen sporten
    - Welke factor denkt u dat het meest belangrijk is voor de deelnemer?
- Vallen er wel eens deelnemers uit?
  - Waarom denkt u dat ze uitvallen?

### ***BOR is afgelopen***

- Wat gebeurt er na afloop van de drie maanden die voor BOR staan?
  - Heeft u zicht op het sport- en beweggedrag van de BOR-deelnemer na afloop?

- Blijven deelnemers bij het sportaanbod (regulier of fysio) of stoppen zij?
- Is er sprake van nazorg?
- Hoe verloopt de nazorg? Wie biedt de nazorg?
- Wat gaat goed hierin? Wat gaat minder goed?

### ***Afsluiting***

- Wilt u nog iets toevoegen?

## Appendix C

## Code tree

| Name  | Description  | Files | References |
|---|--|-------|------------|
| Patients' motivation                          | Sport professionals' opinions on patients' motivation and the aspects they think that have an influence on the motivation  | 2     | 3          |
| Change in motivation during the programme     | This code entails the changes in motivation in patients during participation to the ERS  | 11    | 32         |
| Importance of intrinsic motivation            | This code entails sport professionals' opinions on the importance of intrinsic motivation of patients in an ERS  | 8     | 11         |
| Negative attitudinal factors                  | This code entails factors related to a negative attitude of patients to exercise, as mentioned by the sport professionals  | 1     | 1          |
| Avoidance                                     |  | 6     | 7          |
| Negative attitude towards exercise            |  | 9     | 21         |
| Shame, uncertainty or fear towards exercising |  | 10    | 20         |
| Positive attitudinal factors                  | This code entails factors related to a positive attitude of patients to exercise, as mentioned by the sport professionals  | 0     | 0          |
| Feelings of safety                            |  | 5     | 6          |
| Positive attitude towards exercise            |  | 7     | 10         |
| Self confidence                               |  | 7     | 7          |
| Positive consequences of the programme        | This code entails the positive consequences patients may experience when participating in the programme  | 6     | 8          |
| Self-Determination Theory                     | This category entails information as mentioned by sport professionals regarding the Self-Determination Theory and the three basic psychological needs that can have an influence on patients' motivation | 0     | 0          |

| Name   | Description   | Files | References |
|--|---|-------|------------|
| Autonomy   | Codes related to autonomy of patients are included  | 13    | 35         |
| Competence   | Codes related to competence of patients are included  | 13    | 32         |
| Relatedness  | The category of relatedness has been divided into four categories to create an overview of the most important factors within relatedness                    | 8     | 13         |
| Friends or family support                              |   | 2     | 4          |
| Loneliness   |   | 3     | 6          |
| Peer support   | This code entails information why peer support is experienced as important by professionals.  | 13    | 62         |
| Group consists of like-minded people                   |   | 8     | 14         |
| Professional support                                   |   | 5     | 6          |
| Sport professionals' influence on patients' motivation | Sport professionals' views on their influence on patients' motivation, including general influence and specific strategies used to influence the motivation | 0     | 0          |
| Building a bond with the patient                       | This code entails sport professionals' views on the importance of building a bond between sport professional and patient                                    | 8     | 15         |
| Motivating on intuition                                | This code entails information regarding professionals who say to motivate on intuition, on their beliefs and experiences                                    | 0     | 0          |
| CSC  |   | 5     | 7          |
| Willingness to learn techniques                        |   | 5     | 11         |
| Exercise provider                                      |   | 1     | 4          |
| Professionalism and presence of sport professionals    | This category entails information on the influence professionals experience to have on patients'  | 8     | 15         |



| Name   | Description   | Files | References |
|--|---|-------|------------|
|  | motivation, divided into the most frequently mentioned factors  |       |            |
| Feelings of safety for patient   |   | 8     | 11         |
| Individual and customized guidance                                       |   | 12    | 31         |
| Medical and programme knowledge  |   | 11    | 26         |
| Showing interest and paying attention to patient                         |   | 7     | 19         |
| Strategies used by sport professionals to influence patients' motivation | Strategies used by sport professionals to influence the motivation include all strategies mentioned by sport professionals to influence the motivation. Strategies are divided between CSC and EP | 0     | 0          |
| Conducting evaluation and monitoring                                     | This category entails codes on the importance of evaluation and monitoring of the patient by the professionals  | 11    | 24         |
| CSC  | This category contains information on the strategies used by the CSC to motivate patients in an ERS. Strategies are divided into four categories.   | 3     | 4          |
| Joining patient at first exercise appointment                            | Professionals state the importance of accompanying the patient to the first exercise appointment, of which the information is included in this code.  | 12    | 26         |
| Positive communication   | This category entails subcategories on the importance of positive communication and what types of positive communication are used.  | 0     | 0          |
| Open and honest conversation   |   | 8     | 13         |
| Sharing own experiences  |   | 3     | 3          |

| Name   | Description   | Files | References |
|--|---|-------|------------|
| Stimulating and steering patients            |   | 6     | 13         |
| Taking related factors into account          |   | 4     | 11         |
| Providing alternative exercise opportunities | This includes statements of professionals about providing alternative exercise opportunities as a way to increase patients' motivation. | 5     | 6          |
| Scientific techniques                        | Scientifically substantiated techniques are included in this category.  | 0     | 0          |
| Motivational Interviewing                    |   | 2     | 16         |
| Other techniques                             |   | 2     | 6          |
| Exercise provider                            | Strategies used by the exercise provider to motivate patients are included in this category.  | 5     | 12         |
| Let patients experience exercising           |   | 9     | 19         |
| Positive communication                       | This category entails subcategories on the importance of positive communication and what types of positive communication are used.      | 0     | 0          |
| Advising, informing and activating           |   | 3     | 11         |
| Compliment patients                          |   | 2     | 4          |
| Open conversation                            |   | 3     | 7          |
| Providing a variety in activities            |   | 6     | 8          |

| Name                      | Description  | Files | References |
|---------------------------|--|-------|------------|
| Scientific techniques     | Scientifically substantiated techniques are included in this category. | 0     | 0          |
| Coaching                  |  | 4     | 6          |
| Goal setting              |  | 2     | 3          |
| Motivational interviewing |  | 5     | 9          |
| Other techniques          |  | 4     | 7          |